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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,097	09/15/2003	Xintian E. Lin	P17640	1641
25694	7590	03/21/2005	EXAMINER	
INTEL CORPORATION P.O. BOX 5326 SANTA CLARA, CA 95056-5326			DINH, TRINH VO	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,097

Applicant(s)

LIN ET AL.

Examiner

Trinh Vo Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-22 is/are allowed.
- 6) ☒ Claim(s) 1 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/17/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-22 in the reply filed on February 07, 2005 is acknowledged.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "a magnetic conductor" within a second frequency band in line 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sievenpiper et al (US 6,366,254).

With respect to claim 1, Sievenpiper discloses, in Fig. 3, an apparatus comprising an impedance plane (70) defining an elongated strip, said impedance plane comprises a magnetic conductor (col. 2, line 66 to col. 3, line 1) within at least a particular frequency band, and a sector antenna (50) coupled to one side of the impedance plane, said sector antenna having a planar form factor with dimensions contained within the elongated strip, and said sector antenna having a radiation pattern in the particular frequency band that is flared out from the impedance plane at a particular angle.

With respect to claims 6-7, Sievenpiper discloses the sector antenna (50) comprising a Yagi-type antenna (col. 5, lines 17), and the impedance plane comprises an Artificial Magnetic Conductor (col. 2, line 66 to col. 3, line 1).

With respect to claim 8, Sievenpiper discloses the particular angle being between 35 to 60 degrees (Fig. 11)

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5. Claims 1, 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Sievenpiper et al (US 6,496,155 B1).

With respect to claim 1, Sievenpiper discloses, in Fig. 5, an apparatus comprising an impedance plane (54) defining an elongated strip, said impedance plane comprising a magnetic conductor (54, col. 3, lines 25-27) within at least a particular frequency band, and a sector antenna (56) coupled to one side of the impedance plane, said sector antenna (56) having a planar form factor with dimensions contained within the elongated strip, and said sector antenna having a radiation pattern in the particular frequency band that is flared out from the impedance plane at a particular angle.

With respect to claims 6-7, Sievenpiper discloses in Fig. 5, the sector antenna (56) comprises a Yagi-type antenna (col. 3, lines 16-17), and the impedance plane comprises an Artificial Magnetic Conductor (col. 1, lines 25-40).

Allowable Subject Matter

6. Claims 2-5, 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and/or rewritten to overcome the drawing objection set forth in the office action.

7. Claims 13-22 are presently allowed.

8. The cited art of record fails to teach the sector antenna comprises

a) a conductor plane coupled to the impedance plane on a side opposite the sector antenna, said impedance plane to suppress surface currents between the sector antenna and the conductor plane as defined in claim 2, or

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b) a plurality of short elements arranged in parallel to one another, and perpendicular to a common axis, said common axis being parallel to a long dimension of the impedance plane as defined in claim 5, or

c) said impedance plane further comprising a magnetic conductor within a second frequency band, said sector antenna having radiation patterns that flare out from the impedance plane in both the first and second frequency planes as defined in claim 9, or

d) each of the plurality of additional impedance planes defining an elongated strip, and comprising a magnetic conductor within at least a particular frequency band and a plurality of additional sector antennas each coupled to one side of respective one of the plurality of additional impedance planes, each of the plurality of additional sector antennas having a planar form factor with dimensions contained within the respective elongated strip, having a radiation pattern in the respective particular frequency band that is flared out from the respective impedance plane at a particular angle as defined in claims 10 and 13.

Inquiry

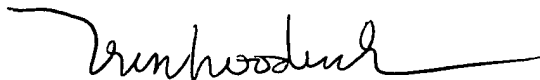
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Trinh Vo Dinh', with a long horizontal flourish extending to the right.

Trinh Vo Dinh
March 15, 2005